IN THE CLAIMS:

Please amend claims 1, 4 and 8 as follows:

1. (Currently amended) ~~In a digital TV receiving to display a digital broadcast signal, a~~ A digital TV receiver, comprising:

a complex multiplier multiplying a received broadcast signal by a reference carrier signal to convert the received broadcast signal to a baseband signal;

an interpolator ~~re-sampling~~ interpolating the baseband signal ~~into a frequency of~~ from the complex multiplier into a digital signal synchronized with a doubled symbol clock ~~to interpolate~~ frequency; and

a carrier recovery unit generating a compensation value by detecting multipath channel information from the reference carrier signal and the received broadcast signal, the carrier recovery unit compensating a carrier signal level of the received broadcast signal with the compensation value~~, the carrier recovery unit~~ and generating the reference carrier signal by finding a phase error from the compensated carrier signal,

wherein the multipath channel information is detected using only a pilot signal with data frequency components removed.

2. (Original) The digital TV receiver of claim 1, the carrier recovery unit comprising:

a low band pass filter detecting a carrier signal of the received broadcast signal from an output of the interpolator;

a multipath information detecting unit finding the compensation value by accumulating a difference between a level of the carrier signal and a level of the reference carrier signal, the multipath information detecting unit compensating the carrier signal level of the received broadcast signal with the compensation value; and

a phase error detection and oscillation unit finding a phase error from the compensated carrier signal, the phase error detection and oscillation unit generating the reference carrier signal proportional to the phase error to output to the complex multiplier.

3. (Original) The digital TV receiver of claim 2, wherein the level of the reference carrier signal is the carrier signal level in case that there exists no multipath.

4. (Currently amended) ~~In a digital TV receiving to display a digital broadcast signal, a~~ A digital TV receiver, comprising:

a complex multiplier multiplying ~~the~~ a received broadcast signal by a reference carrier signal to convert the received broadcast signal to a baseband signal;

an interpolator ~~re-sampling~~ interpolating the baseband signal ~~into a frequency of~~ from the complex multiplier into a digital signal synchronized with a doubled symbol clock ~~to interpolate~~ frequency; and

a symbol synchronization recovery unit extracting only symbol synchronization information located at a symbol frequency from an output signal of the interpolator, the symbol synchronization recovery unit detecting multipath channel information using the extracted symbol synchronization information, ~~the symbol synchronization recovery unit~~ and performing symbol synchronization recovery by compensating a symbol synchronization signal attenuated by multipath.

5. (Original) The digital TV receiver of claim 4, the symbol synchronization recovery unit comprising:

a pre-filter detecting symbol synchronization information by passing an edge portion of a spectrum outputted from the interpolator;

a multipath information detecting unit finding a compensation value by accumulating a difference between a symbol synchronization signal level inputted via the pre-filter and a reference symbol synchronization signal level, the multipath information detecting unit compensating the inputted symbol synchronization signal level through the compensation value; and

a timing error detection and oscillation unit finding a timing error from the compensated symbol synchronization signal, the timing error detection and oscillation unit generating a doubled symbol clock frequency proportional to the timing error to output to the interpolator.

6. (Original) The digital TV receiver of claim 5, the multipath information detecting unit comprising:

a multiplier compensating the symbol synchronization signal level by multiplying the symbol synchronization signal outputted from the pre-filter by the fed-back compensation value;

a symbol synchronization level error detecting unit finding the difference between the symbol synchronization signal level outputted from the multiplier and the reference symbol synchronization signal level; and

an integrator accumulating the difference of the symbol synchronization level error detecting unit to output the accumulated difference as the compensation value to the multiplier.

7. (Original) The digital TV receiver of claim 5, wherein the reference symbol synchronization level is the symbol synchronization level in case that there exists no multipath.

8. (Currently amended) A digital TV receiver, comprising:

a complex multiplier multiplying a received broadcast signal by a reference carrier signal to convert the received broadcast signal to a baseband signal;

an interpolator ~~re-sampling~~ interpolating the baseband signal ~~into a frequency of~~ from the complex multiplier into a digital signal synchronized with a doubled symbol clock ~~to interpolate~~ frequency;

a carrier recovery unit generating a compensation value by detecting multipath channel information from the reference carrier signal and the received broadcast signal, ~~the carrier recovery unit~~ compensating a carrier signal level of the received broadcast signal with the compensation value, ~~the carrier recovery unit~~ and generating the reference carrier signal by finding a phase error from the compensated carrier signal; and

a symbol synchronization recovery unit extracting only symbol synchronization information located at a symbol frequency from an output signal of the interpolator, the symbol synchronization recovery unit detecting multipath channel information using the extracted symbol synchronization information~~, the symbol synchronization recovery unit~~ and performing symbol synchronization recovery by compensating a symbol synchronization signal attenuated by multipath,

wherein the multipath channel information is detected using only a pilot signal with data frequency components removed.

9. (Original) The digital TV receiver of claim 8, the carrier recovery unit comprising:

a low band pass filter detecting a carrier signal of the received broadcast signal from an output of the interpolator;

a multipath information detecting unit finding the compensation value by accumulating a difference between a level of the carrier signal and a level of the reference carrier signal, the multipath information detecting unit compensating the carrier signal level of the received broadcast signal with the compensation value; and

a phase error detection and oscillation unit finding a phase error from the compensated carrier signal, the phase error detection and oscillation unit generating the reference carrier signal proportional to the phase error to output to the complex multiplier.

10. (Original) The digital TV receiver of claim 9, the multipath information detecting unit comprising:

a multiplier compensating the symbol synchronization signal level by multiplying the symbol synchronization signal outputted from the pre-filter by the fed-back compensation value;

a symbol synchronization level error detecting unit finding the difference between the symbol synchronization signal level outputted from the multiplier and the reference symbol synchronization signal level; and

an integrator accumulating the difference of the symbol synchronization level error detecting unit to output the accumulated difference as the compensation value to the multiplier.

11. (Original) The digital TV receiver of claim 9, wherein the level of the reference carrier signal is the carrier signal level in case that there exists no multipath.

12. (Original) The digital TV receiver of claim 8, the symbol synchronization recovery unit comprising:

a pre-filter detecting symbol synchronization information by passing an edge portion of a spectrum outputted from the interpolator;

a multipath information detecting unit finding a compensation value by accumulating a difference between a symbol synchronization signal level inputted via the pre-filter and a reference symbol synchronization signal level, the multipath information detecting unit compensating the inputted symbol synchronization signal level through the compensation value; and

a timing error detection and oscillation unit finding a timing error from the compensated symbol synchronization signal, the timing error detection and oscillation unit generating a doubled symbol clock frequency proportional to the timing error to output to the interpolator.

13. (Original) The digital TV receiver of claim 12, the multipath information detecting unit comprising:

a multiplier compensating the symbol synchronization signal level by multiplying the symbol synchronization signal outputted from the pre-filter by the fed-back compensation value;

a symbol synchronization level error detecting unit finding the difference between the symbol synchronization signal level outputted from the multiplier and the reference symbol synchronization signal level; and

an integrator accumulating the difference of the symbol synchronization level error detecting unit to output the accumulated difference as the compensation value to the multiplier.

14. (Original) The digital TV receiver of claim 12, wherein the reference symbol synchronization level is the symbol synchronization level in case that there exists no multipath.

15. (Original) The digital TV receiver of claim 8, further comprising an antenna control system controlling a direction of an antenna using multipath carrier compensation information detected from carrier information of the carrier recovery unit and multipath carrier compensation information detected from symbol synchronization information of the symbol synchronization recovery unit.